Analyte Specific Reagents

CD57/CD8

Form	Catalog No.
CD57 FITC and CD8 PE* RSR	340709

DESCRIPTION

Specificity

CD57 (Leu™-7) antigen is a human lymphocyte antigen,[1-3] Mr 110 kdaltons (kDa), that is a carbohydrate structure associated with myelin-associated glycoprotein (MAG).[4]

The CD8 (Leu-2a) antigen is expressed on the 32-kDa α-subunit of a disulfide-linked bimolecular complex.[5,6] The CD8 antigen binds to class I major histocompatibility complex (MHC) molecules on antigen-presenting cells (APC), resulting in increased adhesion between the $CD8^+$ T lymphocytes and the APCs.[7,8] Binding of the CD8 antigen to class I MHC molecules enhances the activation of resting T lymphocytes.[7-9] The CD8 antigen is coupled to a protein tyrosine kinase, $p56^{lck}$. The CD8:$p56^{lck}$ complex can play a role in T-lymphocyte activation through mediation of the interactions between the CD8 antigen and the CD3 antigen/T-cell antigen receptor (TCR) complex.[8,9]

Antigen Distribution

The CD57 antigen is present on 15% to 20%[4] of normal peripheral blood mononuclear cells. The CD57 antigen is expressed on a subset of natural killer (NK) lymphocytes and a subset of T lymphocytes, and on central and peripheral nervous tissue.[4]

The CD8 (Leu-2a) antigen is present on the human suppressor/cytotoxic T-lymphocyte subset[10-14] as well as on a subset of NK lymphocytes.[15] The CD8 antigen is expressed on 19% to 48% of normal peripheral blood lymphocytes[16] and the majority of normal thymocytes.[17]

$CD8^+CD57^+$ cells: In the presence of decreased levels of $CD4^+$ cells, elevation of the $CD8^+CD57^+$ subpopulation has been associated with a combination of pre-AIDS symptoms known as AIDS-related complex (ARC).[18-20]

Clones

CD57, clone HNK-1, is derived from hybridization of mouse P3-X63-Ag8.653 myeloma cells with lymph node cells from BALB/c mice immunized with membrane extracts of the HSB-2T–lymphoblastoid cell line. CD8 (Leu-2a), clone SK1, is derived from hybridization of mouse NS-1 myeloma cells with spleen cells from BALB/c mice immunized with peripheral blood T lymphocytes.20

Ig Chain Composition

CD57 is composed of mouse IgM heavy chains and kappa light chains.
CD8 (Leu-2a) is composed of mouse IgG_1 heavy chains and kappa light chains.

Ig CONCENTRATION & Antibody Activity

The Simultest reagent is supplied as a combination of CD57 FITC and CD8 (Leu-2a) PE in 1.0 mL of phosphate-buffered saline (PBS). Twenty microliters (20 µL) of the conjugated antibody stain 10^6 peripheral blood mononuclear cells (PBMCs). PBS contains gelatin and 0.1% sodium azide.

PURITY

≤20% free fluorophore at bottling, as measured by SEC†

HANDLING & STORAGE

Vials should be stored at 2° to 8°C. Simultest reagents should **not** be frozen and should be protected from prolonged exposure to light. Each Simultest reagent is stable for the period shown on the bottle label when stored as directed.

WARRANTY

The products sold hereunder are warranted only to conform to the quantity and contents stated on the label at the time of delivery to the customer. There are no warranties, expressed or implied, which extend beyond the description on the label of the product. BD's sole liability is limited to either replacement of the products or refund of the purchase price. BD is not liable for property damage, personal injury, or economic loss caused by the product.

CHARACTERIZATION

To ensure consistently high-quality reagents, each lot of monoclonal antibody is tested for conformance with characteristics of a standard reagent. Representative flow cytometric data are included in this data sheet.

WARNING

Reagents contain sodium azide. Sodium azide is harmful if swallowed. Keep out of reach of children. Keep away from food, drink, and animal feedingstuff. Wear suitable protective clothing. If swallowed, seek medical advice immediately and show this container or label. Contact with acids liberates very toxic gas. Azide compounds should be flushed with large volumes of water during disposal to avoid deposits in lead or copper plumbing where explosive conditions may develop.

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* US Patent No. 4,520,110; European Patent No. 76,695; Canadian Patent No. 1,179,942.
† Size exclusion chromatography.

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